

NADY[®] AUDIO

OWNER'S MANUAL



SPM-4250 Stereo Powered Mixer

SPM-4250
4-Channel Stereo Powered Mixer

POWERED
MIXER
POWERED
MIXER

SPM-4250

4 Channel Stereo Powered Mixer



Congratulations on your choice of the NADY AUDIO SPM-4250 Stereo Powered Mixer — you have purchased one of the finest stereo powered mixing units on the market today. This unit was developed using the expertise of professional sound engineers and working musicians. You will find that your new SPM-4250 has superior performance and greater flexibility than any other stereo powered mixer in its price range. Please read this manual carefully to get the most out of your new unit.

Thanks for selecting NADY AUDIO as your choice in stereo powered mixers.



FEATURES

- 4 Mono input channels with balanced XLR Mic and 1/4" unbalanced line inputs, switchable +48V phantom power
- Fan-cooled, bipolar amplifier— 2 x 125W RMS @ 4 ohms (1% THD) both channels driven
- Built-in Echo Effects DSP emulates plate, gate, room, hall, stadium reverbs
- Input controls, connections and indicators include Channel Gain controls, Peak LED's, High, Mid, and Low EQ's; Channel EFF Send, Pan, and Main Volume controls
- 5 band master EQ; Aux Send and Return; Tape/CD In and Record Out stereo RCA jacks with Tape level control
- Stereo headphone output with separate volume adjust
- Internal shielded AC supply with 115V(60Hz)/230V(50Hz) select switch

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Date of Purchase _____

Dealer's Name _____

City _____

State _____ Zip _____

Model # _____

Serial # _____

WARNING



An equilateral triangle enclosing a lightning flash/arrowhead symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure which may be of sufficient magnitude to constitute a risk of electric shock.



An equilateral triangle enclosing an exclamation point is intended to alert the user to the presence of important operating and service instructions in the literature enclosed with this unit.

IMPORTANT SAFETY INSTRUCTIONS

When using this electronic device, basic precautions should always be taken, including the following:

1. Read all instructions before using the product.
2. Do not use this product near water (e.g., near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, etc.).
3. This product should be used only with a cart or stand that will keep it level and stable and prevent wobbling.
4. This product, in combination with headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be positioned so that proper ventilation is maintained.
6. The product should be located away from heat sources such as radiators, heat vents, or other devices (including amplifiers) that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product. Replace the fuse only with one of the specified type, size, and correct rating.
8. The power supply cord should: (1) be undamaged, (2) never share an outlet or extension cord with other devices so that the outlet’s or extension cord’s power rating is exceeded, and (3) never be left plugged into the outlet when not being used for a long period of time.
9. Care should be taken so that objects do not fall into, and liquids are not spilled through, the enclosure’s openings.
10. The product should be serviced by qualified service personnel if:
 - A. The power supply cord or the plug has been damaged.
 - B. Objects have fallen into, or liquid has been spilled onto the product.
 - C. The product has been exposed to rain.
 - D. The product does not appear to operate normally or exhibits a marked change in performance.
 - E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond what is described in the user maintenance instructions. All other servicing should be referred to qualified service personnel.

INSTALLATION

To ensure years of enjoyment from your NADY AUDIO SPM-4250 powered mixer, please read and understand this manual thoroughly before using the unit.

1. INSPECTION

Your NADY AUDIO SPM-4250 was carefully packed at the factory in packaging designed to protect the units in shipment. Before installing and using your unit, carefully examine the packaging and all contents for any signs of physical damage that may have occurred in transit.

[Please note: Nady Systems is not responsible for shipping damage. If your unit is damaged, do not return to Nady, but notify your dealer and the shipping company (if shipped to you) immediately to make a claim. Such claims must be made by the consignee in a timely manner.]

2. SETUP AND OPERATION

Parts of the unit can become very warm during use. This is normal during operation. Care should be taken to ensure that there is enough space around the unit for cooling. Also, do not place the SPM-4250 on high temperature devices such as power amplifiers, etc., or the unit may overheat in operation.

Although the unit's chassis is shielded against radio frequency (RF) and electromagnetic interference (EMI), extremely high fields of RF and EMI should be avoided.

Please make sure that the power unit supplied is marked for the correct voltage in your area (120VAC/60 Hz or 230VAC/50 Hz). Power requirements for electrical equipment differ from area to area. In new installations and portable sound systems, or any situation in which the AC power is in question, it is wise to confirm the voltage and use the appropriate power supply unit before connecting it to power sources.

Europe (except UK): 230V, 50Hz

UK and Australia: 240V, 50Hz

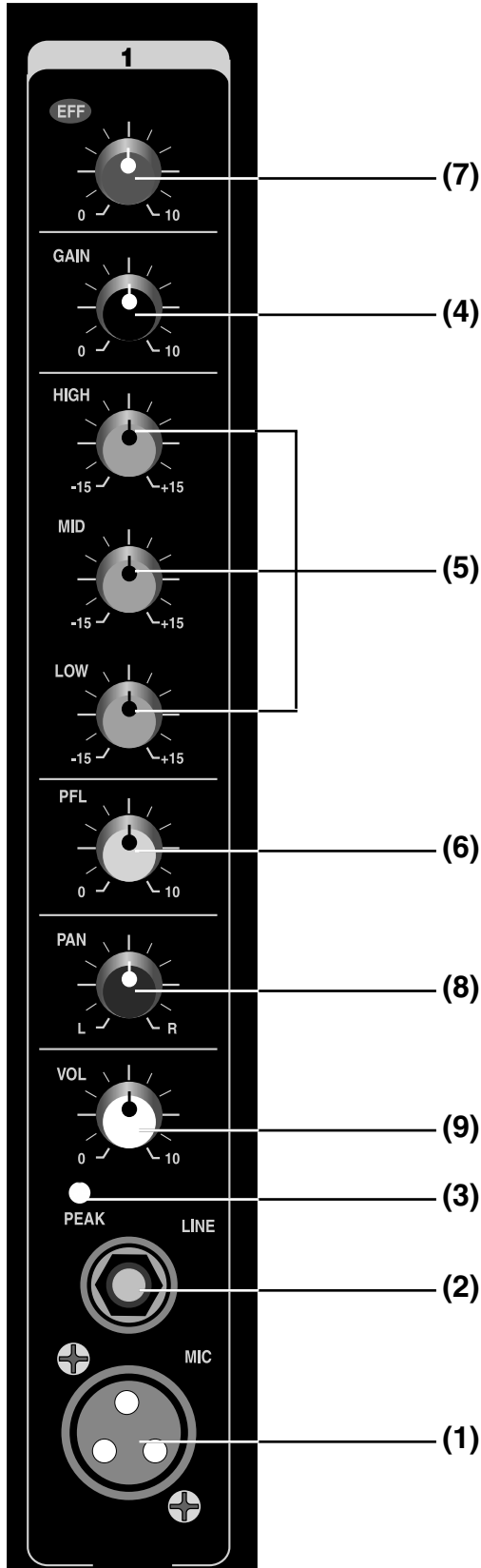
USA and Canada: 120V, 60 Hz

For other areas, please check with local authorities.

When ready to operate, plug the AC cord into the power source. Make sure that the unit is turned off before connecting to the AC power source to avoid possible loud transients which can damage your speakers or your ears.

Power up the unit as noted on page 8.

FRONT CONTROLS AND CONNECTIONS



CHANNEL SECTION

(1) MIC INPUT

This electronically balanced XLR input is designed to accept signals from any balanced or unbalanced low impedance (Low Z) microphone. The XLR jack is configured for: Pin1 = ground, Pin2 = positive (+), Pin3 = negative (-).

(2) LINE INPUT

This 1/4" input is designed to accept balanced or unbalanced line-level signals such as those from keyboards, drum machines, or samplers. If a balanced signal is to be connected to the line input, then a 1/4" TRS (stereo) phone plug should be wired for: Tip = positive (+), Ring = negative (-), Sleeve = ground.

(Note: Only the Mic or the Line input of a given channel should be connected at one time. Do not connect both at the same time.)

(3) PEAK LED INDICATOR

The PEAK LED illuminates when a channel input is overloading. It detects the peak level after the **EQUALIZER CONTROLS (5)** and will light just before clipping to warn that the signal is approaching overload. You do not want the Peak LED to light except very intermittently. If it lights persistently, reduce the **GAIN CONTROL (4)**.

(4) GAIN CONTROL

The GAIN control adjusts the input sensitivity of the mic and line inputs on each channel. This control can be adjusted to accommodate input signals from a wide variety of sources, from the high outputs of keyboards or drum machines to the small signal outputs of microphones. The best balance of S/N and dynamic range will be achieved if you adjust the GAIN control on each channel separately so that the maximum signal level can be input without distortion. While speaking, singing, or playing an instrument at maximum performance level, increase the GAIN control until the **PEAK LED (3)** flashes, then turn down the GAIN control until the flashing stops.

(5) EQUALIZER CONTROLS

All input channels are fitted with a three-band EQ - HIGH, MID, and LOW. All three bands have up to 15 dB of cut and boost, with a center detent for OFF. The frequency response is flat when all three EQ knobs are in the center detent position. The HIGH and LOW shelving controls have their frequencies fixed at 12 KHz and 90Hz respectively. The MID control has a peaking response at 2KHz. The channel EQ is a valuable feature of the mixer as it allows the user to control the tonal characteristics of each channel separately. For example, boosting the LOW can fatten the

FRONT CONTROLS AND CONNECTIONS

sound, add warmth to vocals, or extra punch to bass, drums and synths; the MID control can be used to define the midrange or bring out the vocals; and adjusting the HIGH control can provide a crisp sounding high end. Another very important, yet often overlooked technique is to use the EQ to subtract from the mix. Cutting the HIGH control can reduce unwanted sibilance, hiss, cymbals, or high frequency feedback, while attenuating the MID or LOW can also eliminate feedback or clear up a muddy sounding mix. Cutting the HIGH and LOW, then pushing up the **VOLUME CONTROL (9)** is equivalent to mid range boost!

[Note: Always reset a channel's input **GAIN CONTROL (4)** (or external device's output level) after altering the amount of equalization.]

The key to successful equalization is to avoid excess. Too much equalization on the input channels will result in a mix that is smeared together with nothing specifically defined. During rehearsals, experiment with the equalizer controls on various instruments, vocals and combinations of these mixed together to become familiar with various equalizer settings.

(6) PFL CONTROL

The PFL (pre-fader listen) control adjusts the volume of the mono signal sent to the **HEADPHONES (22)** provided the master section **PFL SWITCH(23)** is enabled. The signal is post **EQ (5)** and independent of the channel **VOLUME (9)** or **EFFECTS (7)**. Adjusting the PFL never affects the **AUX SEND (18)**, **RECORD OUT (20)**, or **SPEAKER OUTPUTS (26)**. This is useful if the person operating the SPM-4250 wants to listen to one or more of the input signals, especially, to troubleshoot problems without affecting the main mix. The PFL controls can also be used to set a sub mix which can be output from the HEADPHONES jack and sent to an external recording device, mixing board, or power amplifier.

(7) EFFECT CONTROL

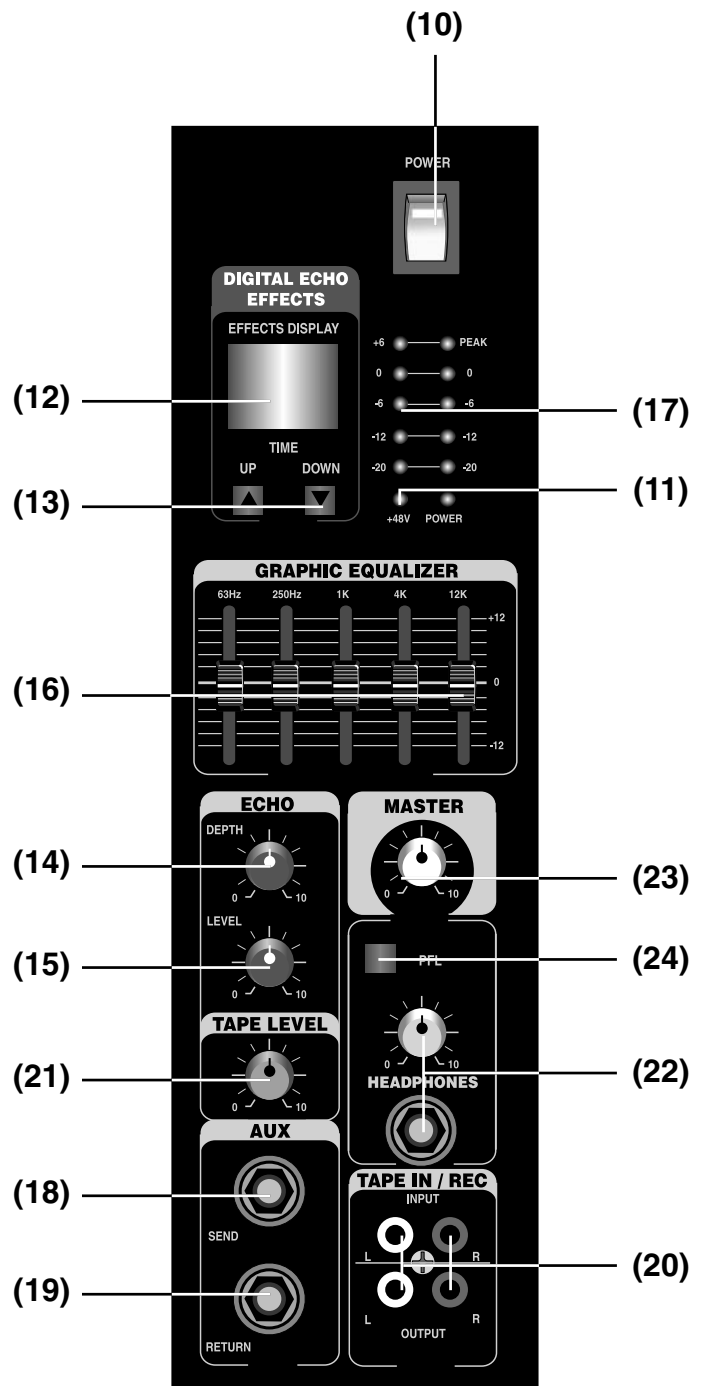
The EFFECT control adjusts the signal level sent by each channel to the internal ECHO EFFECTS DSP (Digital Sound Processor). The EFFECT controls are mono and post Channel EQ and post Volume. The signal level sent to the EFF bus will be affected by the channel Volume setting but not the PAN control. This control also adjusts the level of the signal sent to the **AUX SEND (18)**.

(8) PAN CONTROL

The PAN positions the output of the channel in the stereo field of the Master output.

(9) VOLUME CONTROL

This adjusts the channel signal level that is sent to the master section. This control also adjusts the level of the signal sent to the **AUX SEND (18)**.



FRONT CONTROLS AND CONNECTIONS

MASTER SECTION

(10) POWER ON/OFF SWITCH

This switch turns the unit on and off. The SPM-4250 uses relays to ensure quiet turn-on and turn-off.

(11) 48V PHANTOM POWER LED

Lights to indicate when 48V phantom power is turned on.

(12) ECHO EFFECTS DISPLAY

This numeric Effects Display will indicate which of the 16 echo presets has been selected.

(13) ECHO TIME SELECT BUTTONS

Use these UP and DOWN buttons to select one of 16 preset time intervals of the built-in Echo Effects DSP (Digital Sound Processor). Setting 1 selects the shortest echo time to emulate plate and doubling effects whereas setting 16 enables the longest echo time for stadium reverbs and delay sounds. Settings around 4 - 7 emulate room and hall reverbs by adjusting the **ECHO DEPTH CONTROL (14)** to approx ten o'clock and the **ECHO LEVEL CONTROL (15)** to mid.

(14) ECHO DEPTH CONTROL

This adjusts the number of repeats and feedback/depth of the echo effect selected. Turning the control clockwise sets the repeats to maximum for lengthy echoes or plate effects. Turning the control counter-clockwise sets one repeat for single delay or doubling effects.

(15) ECHO LEVEL CONTROL

This adjusts the level of the effected signal sent to the master mix bus.

(16) 5-BAND GRAPHIC EQ

The 5-band graphic equalizer allows you to adjust the frequency response of the left and right master bus signal, allowing final tonal adjustments. This provides a maximum of 12dB cut or boost from the flat position for each frequency band; 63Hz/250Hz/1KHz/4KHz/12KHz. The faders can be adjusted to easily eliminate feedback at the corresponding frequency. These EQ's are pre MASTER VOLUME.

(17) LED OUTPUT METER

The 5-stage stereo output LED meter display the can be used to maintain proper levels in the master mix. The red PEAK LED will light when the output signal is just below clipping. It is acceptable if the red LED lights occasionally. If the red LED lights more than occasionally, you should turn down the **MASTER VOLUME (24)** to avoid audible distortion and clipping, which can cause damage to your speaker and even the internal amplifier.

(18) AUX SEND JACK

The AUX SEND JACK provides a mono mixed signal output from each input channel to an external effects unit or other device. The signal level is adjusted by the EFF and Volume controls of each channel.

(19) AUX RETURN

This input can be used to return the effected signal into the SPM-4250 or it can be used as an auxiliary input for line level devices. The input signal can be adjusted using the **MASTER VOLUME (24)** and the output volume of the external unit.

(20) TAPE INPUT / REC OUTPUT JACKS

The Left and Right TAPE INPUT RCA jacks allow cassette recorders, CD players, or MP3 players to be added to the master mix output. These signals are affected by the **TAPE LEVEL (21)**, **MASTER VOLUME (24)**, and **5-BAND EQ (16)**. The RECORD OUTPUT Left and Right RCA jacks provides signal output to recording devices, home audio equipment, or external amplifiers. These outputs are post MASTER VOLUME and 5-BAND EQ.

(21) TAPE LEVEL

This adjusts the amount of TAPE IN signal that is sent to the master bus.

(22) HEADPHONES CONTROL AND JACK

This control and corresponding 1/4 output is for connecting headphones to the SPM-4250 to monitor each channel, or the master mix, dependant on the **MASTER PFL (23)** setting.

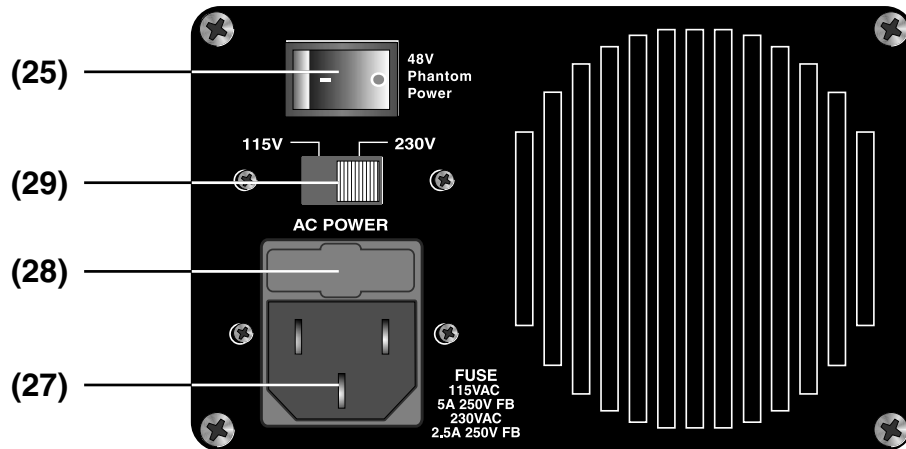
(23) MASTER PFL SWITCH

When this push-button switch is out, the HEADPHONES receive the main mix signal post 5-BAND EQ / pre-MASTER VOLUME. When the button is depressed, the signal is sent from each channel PFL control to the HEADPHONES. In this setting, the HEADPHONES jack can also be used as a sub-mix output.

(24) MASTER VOLUME

The MASTER VOLUME sets the level of the stereo signal sent to the internal power amplifiers.

REAR CONTROLS AND CONNECTIONS



(25) PHANTOM POWER ON/OFF SWITCH

When this switch is depressed, +48V of phantom power will be supplied to the XLR mic inputs.

(26) SPEAKER OUTPUT JACKS

The left and right 1/4" speaker outputs can deliver up to 125W RMS per side to 4Ω loads.

(27) POWER CONNECTOR

The IEC socket is used to connect the power cord to an AC power source.

(Caution: Do not remove the center grounding pin.)

(28) FUSE COMPARTMENT

Replace with only the same type fuse as listed in the SPECIFICATIONS. If it blows continuously, do not use the unit and have it serviced by qualified personnel.

(29) AC VOLTAGE SELECTOR SWITCH

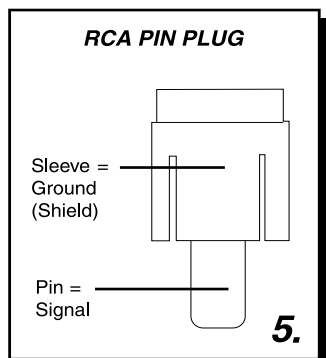
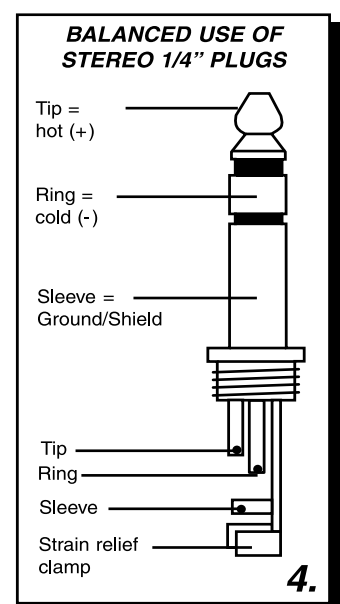
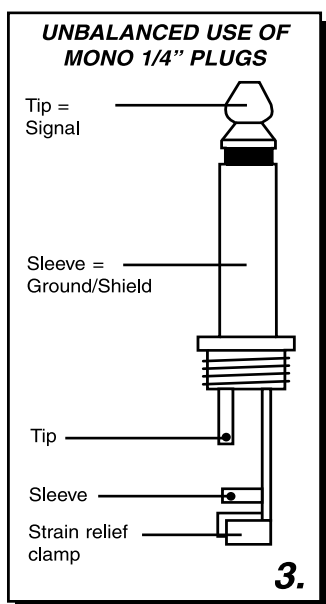
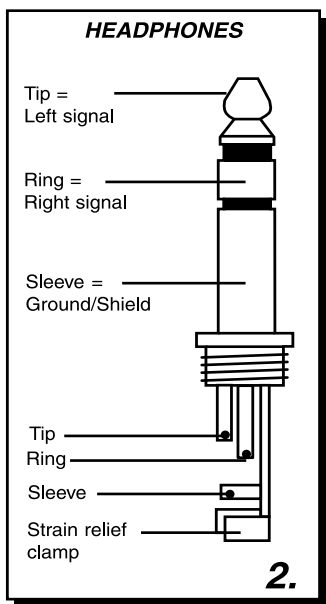
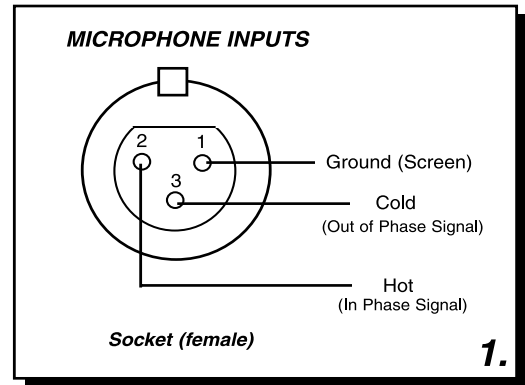
Before plugging in the power cord, check to see that the unit is set for the proper voltage for your area: ~115V (60Hz) or ~230V (50Hz).

CONNECTIONS

This NADY AUDIO mixer uses 4 different types of audio connectors for the various input/output connections: (1) XLR balanced; (2) 1/4" TRS phone jacks for balanced, unbalanced, stereo, or in/out inserts; (3) 1/4" TS unbalanced; (4) RCA pin unbalanced

Figures

1. Balanced XLR input connections
2. Stereo headphone connection with 1/4" TRS plug
3. 1/4" mono (TRS) plug used as unbalanced input/output
4. 1/4" stereo (TRS) plug used as balanced input/output
5. RCA pin plug for unbalanced input/output



SPECIFICATIONS

1. INPUT SECTION

Input	Connector	Input Impedance	Max Level
MONO CH MIC	XLR BALANCED	3.5K Ω	-15dBv
MONO CH LINE	1/4" TRS BALANCED	30K Ω	+11dBv
AUX RETURNS	1/4" TS BALANCED	15K Ω	+10dBv
TAPE IN	RCA JACKS	15K Ω	+10dBv

2. OUTPUT SECTION

Output	Connector	Output Impedance	Max Level
AUX SEND	1/4" UNBALANCED	100 Ω	+7dBv
TAPE OUT	RCA JACKS	1K Ω	+22dBv

3. MIXER SECTION

Frequency Response	30Hz~18KHz (-3dB)
THD	0.12%
S/N RATIO	-84dB
NOISE FLOOR	0.25mV
HIGH EQ \pm 15dB	12KHz
MID EQ \pm 15dB	2KHz
LOW EQ \pm 15dB	90Hz

4. POWER AMP SECTION

POWER OUT	
8 Ω BOTH CHANNELS DRIVEN	105W RMS per side
4 Ω BOTH CHANNELS DRIVEN	125W RMS per side
FREQUENCY RESPONSE	<10Hz~20KHz (-3dB)

5. GENERAL

POWER REQUIREMENTS	Voltage selectable, 115VAC/60Hz or 230VAC /50Hz
FUSE REQUIREMENTS	5A 250V FB @ 115VAC; 2.5A 250V FB @ 230VAC
WEIGHT	18.65 lbs. (8.6 Kg)
DIMENSIONS	17.4" x 10.5" x 10.3" (44.2 cm x 26.7 cm x 26.2 cm)

The specifications above are correct at the time of printing of this manual. For improvement purposes, all specifications for this unit, including design and appearance, are subject to change without prior notice.

NOTES

SERVICE FOR YOUR NADY AUDIO PRODUCT

(U.S.) Should your NADY AUDIO product require service, please contact the Nady Service Department via telephone at (510) 652-2411, or e-mail at service@nady.com.

(International) For service, please contact the NADY AUDIO distributor in your country through the dealer from whom you purchased this product.

DO NOT ATTEMPT TO SERVICE THIS UNIT
YOURSELF AS IT CAN BE DANGEROUS AND
WILL ALSO VOID THE WARRANTY.



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